



<b>PRODUCT SPECIFICATION</b>			
Product Name	Sodium Hypochlorite Solution, 14-15% Available Chlorine		
Alternative Name	Bleach Liquor		
Specification Reference	SH150PG01 (07/05)		
	Units	Specification Range	Typical Analysis
Available Chlorine	% w/w	>14.0	14.8
Density at 20°C	kg/litre	1.24 – 1.27	1.26
Sodium Hypochlorite	% w/w	14.7 minimum	15.5
Sodium Hydroxide	% w/w	0.2 – 1.0	0.7
Sodium Carbonate	% w/w	<1.5	0.4
Total Alkalinity as NaOH	% w/w	0.3 - 1.8	1.0
Iron, Fe	ppm	<2	0.4
<b>Methods of Analysis</b>			
Methods of analysis are given in BS4426:1969			

The strength specification is that at the time of supply. Sodium Hypochlorite solution is inherently unstable and slowly loses strength, producing Sodium Chloride and Oxygen, therefore time/light/foreign matter all contribute (sometimes to significant effect) to a reduction in strength. We recommend no more than 2-3 months stock on hand in cool/dark storage conditions.

#### NOTES

##### Exclusion of Liability

Information contained in this publication is accurate to the best of the knowledge and belief of Tennants.

Any information or advice obtained from Tennants otherwise than by means of this publication and whether relating to Tennants materials or other materials, is also given in good faith. However, it remains at all times the responsibility of the customer to ensure that Tennants materials are suitable for the particular purpose intended.

Tennants accepts no liability whatsoever (except as otherwise provided by law) arising out of the use of information supplied, the application, adaptation or processing of the products described herein, the use of other materials in lieu of Tennants materials or the use of Tennants materials in conjunction with such other materials.

##### Health and Safety

A Material Safety Data Sheet has been issued describing the health, safety and environmental properties of this product, identifying the potential hazards and giving advice on the handling precautions and emergency procedures. This must be consulted fully before handling, storage and use.



## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

#### 1.1 Product Identifier

Trade Name	Sodium hypochlorite 14 – 15% (All grades)
Substance Name	sodium hypochlorite, solution 10 – 15% Cl active
Index Number	017-011-00-1
CAS Number	7681-52-9
EINECS Number	231-668-3
REACH Registration Number	01-2119488154-34-XXXX

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use(s)	At this time we do not yet have information on identified uses. They will be included in this safety data sheet when available
Uses advised against	At this time we do not yet have information on use restriction. They will be included in this safety data sheet when available

#### 1.3 Details of the supplier of the safety data sheet

Tennants Distribution Limited  
 Hazelbottom Road  
 Cheetham  
 Manchester  
 M8 0GR  
 Tel: 44(0)161 205 4454  
 Fax: 44(0) 161 203 4298  
 Email: [msds@tennantsdistribution.com](mailto:msds@tennantsdistribution.com)

#### 1.4 Emergency telephone number

Tel: 44(0)844 335 0001 (24 hours)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### 2.1.1 Regulation 1272/2008 (CLP)

Hazard Class	Hazard Category	Target Organs	Hazard Statements
Skin corrosion	Category 1B		H314
Acute aquatic toxicity	Category 1		H400

For the full text of the H-Statements mentioned in this Section, see Section 16

##### 2.1.2 EEC Directive 67/548/EEC & Directive 1999/45/EC

Hazard symbol/Category of danger	Risk phrases
Corrosive (C)	R34, R31
Dangerous for the environment (N)	R50

#### 2.2 Label elements

##### 2.2.1

Hazard Pictogram



According to Regulation (EC) No. 1272/2008 (CLP).

Signal word(s)

Danger.

Hazard statement(s)

H314; Causes severe skin burns and eye damage.

Precautionary statement(s)

H400: Very toxic to aquatic life  
 P260: Do not breathe vapour  
 P273: Avoid release to the environment  
 P280: Wear protective gloves/protective clothing/eye protection/face protection  
 P301 + P330 + P331: If SWALLOWED: rinse mouth. Do NOT induce vomiting  
 P303 + P361 + P353: If ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower



**PRODUCT: SODIUM HYPOCHLORITE (HYPO) REVISION: 4 DATED: 26/02/11 PAGE 3 OF 8**

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing

**Additional Labelling:**

EUHO31: Contact with acids liberates toxic gas

**Hazardous components which must be listed on the label:**

Sodium hypochlorite, solution

**2.3 Other hazards**

No other information is available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substances**

- **Chemical nature:** Sodium hypochlorite  
 Aqueous solution

Chemical Name	Identification Number		Amount (%)
Sodium hypochlorite, solution	Index Number	017-011-00-1	>= 10 - <=15
	CAS No.	7681-52-9	
	EC No.	231-668-3	
Sodium hydroxide	Index Number	011-002-00-6	>=0 - <5
	CAS No.	1310-73-2	
	EC No.	215-185-5	

See section 16 for the full text of the R, H- and EUH-phrases declared above  
 Occupational exposure limits, if available, are listed in section 8

**4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

**General Advice**

Take off contaminated clothing immediately

**Inhalation**

In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or has stopped, administer artificial respiration. Call a physician immediately

**Skin contact**

Wash off immediately with soap and plenty of water. If irritation appears or if the contamination is important, seek medical advice

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible

**Ingestion**

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting – seek medical advice. If a person vomits, when lying on their back, place them in the recovery position

**4.2 Most important symptoms and effects, both acute and delayed**

Inhalation may provoke the following symptoms: Cough, headache, lung oedema  
 Effects: Risk of serious damage to the lungs (by aspiration)

**4.3 Indication of any immediate medical attention and special treatment needed**

Treat symptomatically. Later control for pneumonia and lung oedema

**5. FIRE FIGHTING MEASURES**

**5.1 Extinguishing Media**

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn  
 Unsuitable extinguishing media: Exempt

**5.2 Special hazards arising from the substance or mixture**

Fire may cause evolution of: Chlorine, Hydrogen chlorine gas, chlorine oxides

**5.3 Advice for fire-fighters**

In the event of fire, wear self contained breathing apparatus. Wear appropriate body protection (full protective suit)  
 Further information: Cool closed containers exposed to fire with water spray. Heating will cause a pressure rise –with risk of bursting. Collect contaminated fire extinguishing water separately. This must not be discharged into drains



**6. ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Wear respiratory protection. Keep people away from and upwind of spill/leak. Provide adequate ventilation. Danger of slipping if spilled. Avoid contact with skin and eyes. Do not breathe vapour

**6.2 Environmental precautions**

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases

**6.3 Methods and material for containment and cleaning up**

Method and materials for containment and cleaning up: Absorb with liquid binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed container for disposal

Further information: Treat recovered material as described in Section 13 Disposal Considerations

**6.4 Reference to other sections**

For personal protection see Section 8

**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

**Advice on safe handling:** Do not keep the container sealed. Handle and open container with care. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with the skin and eyes. Do not breathe vapours or spray mist. M Use respirator with appropriate filter if vapours or aerosol are released. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity

**Hygiene measures:** Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off immediately all contaminated clothing immediately. Avoid contact with the skin and the eyes. Do not breathe vapour or spray mist

**7.2 Conditions for safe storage, including any incompatibilities**

**Requirements for storage:** Keep in an area equipped with alkali resistant flooring. Keep only in the original container. Store in a receptacle equipped with a vent

**Advice on protection against fire and explosion:** The product is not flammable. Normal measures for preventive fire protection

**Further information on storage conditions:** Keep in a well-ventilated place. Protect against light. Store in a cool place. Do not keep the container sealed

**Advice on common storage:** Keep away from food, drink and animal feedingstuffs. Do not store together with acids and ammonium salts

**German storage class:** 8B: Non-combustible substances, corrosive

**7.3 Specific end use(s)**

No information available

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters**

**Sodium Hydroxide CAS No. 1310-73-2**

Regulatory Basis	UK EH40 Workplace Exposure Limits (WEL's)
Regulatory List	EH40 WEL
Value Type	Short Term Exposure Limit
Value	2 mg/m <sup>3</sup>

**Chlorine CAS No. 7782-50-5**

Regulatory Basis	EU. Indicative Exposure and Directives relating to work exposure to chemical, physical and biological agents
Regulatory List	EU ELV
Value Type	Short Term Exposure Limit (STEL):
Value	0.5 ppm
Value	1.5 mg/m <sup>3</sup>
Remarks	Indicative
Regulatory Basis	UK EH40 Workplace Exposure Limit (WEL)
Regulatory List	EH40 WEL
Value Type	Short Term Exposure Limit (STEL)
Value	0.5 ppm
Value	1.5 mg/m <sup>3</sup>

**DN(M)EL/PNEC**

**DN(M)EL's**

Currently we do not have any information from our supplier about this

**Predicted No Effect Concentrations (PNEC):**

Currently we do not have any information from our supplier about this



**PRODUCT: SODIUM HYPOCHLORITE (HYPO) REVISION: 4 DATED: 26/02/11 PAGE 5 OF 8**

<b>8.2 Exposure controls</b>	
<b>Appropriate engineering controls</b> Refer to protective measures listed in sections 7 and 8	
<b>Respiratory protection</b> Advice: Use respirator with appropriate filter if vapours or aerosol are released. Recommended Filter type: Combination filter: B-P2. Combination filter: B-P3	
<b>Hand protection</b> Advice: The glove material has to be impermeable and resistant to the product/the substance/the preparation. Take note of the information given by the producer concerning permeability and breakthrough times, and of the special workplace conditions (mechanical strain, duration of contact). Protective gloves should be replaced at first signs of wear	
<b>Gloves material</b> Butyl rubber. Gloves: 8h. Glove thickness: 0.5 mm Polychloroprene: Gloves: 8h. Glove thickness: 0.5 mm	
<b>Eye protection</b> Tightly fitting safety goggles	
<b>Skin protection</b> Alkali resistant protective clothing	
<b>Hygiene Measures</b> Avoid contact with the skin and the eyes Use barrier cream regularly Provide adequate ventilation Wear suitable gloves and eye/face protection	
<b>Protective Measures</b> General industrial hygiene practice	
<b>Environmental exposure controls</b> Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases	
<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>	
<b>9.1 Information on basic physical and chemical properties</b>	
Appearance	Liquid
Colour	Yellowish green
Odour	Slight chlorine
Odour Threshold	Currently we do not have any information from our supplier about this
pH in water solution	>11
Freezing point	-17°C
Boiling point/boiling range	110°C
Flash point	Not applicable
Evaporation rate	Currently we do not have any information from our supplier about this
Flammability (solid, gas)	Does not ignite
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	Currently we do not have any information from our supplier about this
Relative vapour density	>1.0 (Air = 1.0)
Density	1.2 – 1.3 g/cm <sup>3</sup>
Water solubility	Completely soluble
Partition coefficient/n-octanol/water	Currently we do not have any information from our supplier about this
Thermal decomposition	Not applicable
Viscosity, dynamic	3.45 mPa.s 20°C (Aqueous solution, 15%)
Explosive properties	Not explosive
Oxidising properties	Currently we do not have any information from our supplier about this
<b>9.2 Other information</b>	
No further information available	
<b>10. STABILITY AND REACTIVITY</b>	
<b>10.1 Reactivity</b> Advice: This product is a very reactive substance that can react with many inorganic and organic compounds	
<b>10.2 Chemical stability</b> Advice: Decomposes on heating. Decomposes on exposure to light	



**PRODUCT: SODIUM HYPOCHLORITE (HYPO) REVISION: 4 DATED: 26/02/11 PAGE 6 OF 8**

<b>10.3 Possibility of hazardous reactions</b> Hazardous reactions: May develop chlorine if mixed with acidic solutions
<b>10.4 Conditions to avoid</b> Heat
<b>10.5 Incompatible materials</b> Materials to avoid: Acids, ammonium compounds, acetic anhydride, organic materials, hydrogen peroxide, metal salts, copper, nickel, iron
<b>10.6 Hazardous decomposition products</b> Hazardous decomposition products: Hydrogen chloride gas, chlorine, chlorine oxides
<b>11. TOXICOLOGICAL INFORMATION</b>
<b>11.1 Information on toxicological effects</b> <b>Component: Sodium Hypochlorite solution 10 – 15% Cl active CAS No. 7681-52-9</b>
<b>Acute Toxicity</b> <b>Oral</b> Value Type: LD50 Value: 2900 – 3400 mg/kg Species: Mouse Remarks: Cause serious burns with severe pains, vomiting, pains in the stomach, possibly shock and damaged kidneys. The burn may occur even if only small amounts have been swallowed <b>Inhalation</b> Value Type: LD50 Value: >10.5 mg/l Species: Rat <b>Dermal</b> Value Type: LD50 Value: >2000 mg/kg Species: Rabbit
<b>Irritation</b> <b>Skin</b> Species: Rabbit. Result: Severe skin irritation. Method: OECD Test Guideline 404. Species: Human. Result: Corrosive effect <b>Eyes</b> Species: Rabbit. Result: Corrosive effects. Remarks: Risk of serious damage to eyes
<b>Sensitisation</b> Species: Guinea pig. Result: Not sensitising
<b>Further information</b> All numerical values for acute toxicity are calculated on the pure substances. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. Handle in accordance with good industrial hygiene and safety practice
<b>12. ECOLOGICAL INFORMATION</b>
<b>12.1 Acute Toxicity</b> <b>Component: Sodium hypochlorite, solution 10 – 15% Cl active</b> <b>Fish</b> Species: Pimephales promelas. Exposure time: 96h. Value type: LC50. Value: 0.22 – 0.62 mg/l Toxicity to daphnia and other aquatic invertebrates Species: Daphnia magna. Exposure time: 96h. Value type: EC50. Value: 2.1 mg/l <b>Algae</b> Species: Desmodesmus subspicatus (green algae). 24h..Value type: EC50. Value: 28 mg/l
<b>12.2 Persistence and degradability</b> <b>Component: Sodium hypochlorite, solution 10 – 15% Cl active</b> <b>Persistence:</b> No data available <b>Biodegradability:</b> Remarks: The methods for determining the biological degradability are not applicable to inorganic substances
<b>12.3 Bio accumulative potential</b> Remarks: Bioaccumulation is not expected
<b>12.4 Mobility in soil</b> Remarks: The product is mobile in water environment
<b>12.5 Results of PBT and vPvB assessment</b> Remarks: No data available
<b>12.6 Other adverse effects</b> <b>Additional ecological information:</b> All numerical values for ecotoxicity effects are calculated on the pure substances Do not flush into surface water or sanitary sewer system



<b>13. DISPOSAL CONSIDERATIONS</b>	
<b>13.1 Waste treatment methods</b>	
<b>Product:</b> Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.	
<b>Contaminated Packaging:</b> Empty contaminated packaging thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleaned are to be disposed of in the same manner as the product	
<b>European Waste Catalogue Number:</b> No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer	
<b>14. TRANSPORT INFORMATION</b>	
<b>14.1 UN Number</b> ADR RID IMDG	1791 1791 1791
<b>14.2 UN Proper Shipping Name</b> ADR RID IMDG	HYPOCHLORITE SOLUTION HYPOCHLORITE SOLUTION HYPOCHLORITE SOLUTION
<b>14.3 Transport hazard class</b> ADR-Class (Labels, Classification Code; Hazard Identification No; Tunnel restriction code) RID-Class (Labels, Classification Code; Hazard Identification No.) IMDG-Class (Labels; Ems)	8 8; C9; 80; (E) 8 8; C9; 80 8 8; F-A, S-B
<b>14.4 Packing group</b> ADR RID IMDG	III III III
<b>14.5 Environmental</b> Labelling according to 5.2.1.8 ADR Labelling according to 5.2.1.8 ADR Labelling according to 5.2.1.6.3 IMDG Classification as environmentally hazardous according to 2.9.3 IMDG	Fish and tree Fish and tree Fish and tree Yes
<b>14.6 Special precautions for users</b> Note: Not applicable	
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> Note: Note applicable	
<b>15. REGULATORY INFORMATION</b>	
<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
<b>15.2 Chemical safety assessment</b> Currently we do not have any information from our supplier about this	
<b>16. OTHER INFORMATION</b>	
<b>Full text of R Phrases referred to under sections 2 and 3</b> R31: Contact with acids liberates toxic gas R34: Causes burns R50: Very toxic to aquatic organisms	
<b>Full text of H-Statements referred to under sections 2 and 3</b> H314: Causes severe skin burns and eye damage H400: Very toxic to aquatic life	
<b>Further information</b> <b>Other information:</b> Restricted to professional users. Attention - Avoid exposure – obtain special instructions before use The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the product with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety	



TENNANTS DISTRIBUTION LIMITED

HAZELBOTTOM ROAD, CHEETHAM, MANCHESTER M8 0GR TEL 44(0)161 205 4454 FAX 44(0)161 203 4298

E-mail [sales.manchester@tennantsdistribution.com](mailto:sales.manchester@tennantsdistribution.com)

**PRODUCT: SODIUM HYPOCHLORITE (HYPO) REVISION: 4 DATED: 26/02/11 PAGE 8 OF 8**

Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**Source of key data used to compile the data sheet**

Supplier information

**Modifications from last revision**

The Safety Data Sheets have been revised throughout in accordance with Regulation (EC) No. 1907/2006 and amendments

**Date:** 18/01/11